CLAIMS:

1. A low-pressure mercury vapor discharge lamp comprising a discharge vessel, the discharge vessel enclosing, in a gastight manner, a discharge space provided with a filling of mercury and a rare gas, the discharge vessel comprising means for maintaining an electric discharge in the discharge space, a portion of the surface of the discharge vessel facing the discharge space being provided with a protective layer, characterized in that the protective layer comprises aluminum oxide or yttrium oxide and further comprises a borate and/or a phosphate of an alkaline earth metal and/or of scandium, yttrium, or a further rare earth metal.

2. A low-pressure mercury vapor discharge lamp as claimed in claim 1, characterized in that the alkaline earth metal is calcium, strontium, and/or barium.

3. A low-pressure mercury vapor discharge lamp as claimed in claim 1, characterized in that the further rare earth metal is lanthanum, cerium, and/or gadolinium.

4. A low-pressure mercury vapor discharge lamp as claimed in claim 1, 2 or 3, characterized in that the aluminum oxide comprises particles with an effective particle size d_p not exceeding 3 μm, preferably in a range of $0.1 \leq d_p \leq 0.8$ μm.

5. A low-pressure mercury vapor discharge lamp as claimed in claim 1, 2 or 3, characterized in that the protective layer comprises an alkaline earth borate, and in that the thickness of the protective layer is in a range from 0.1 to 50 μm.

6. A low-pressure mercury vapor discharge lamp as claimed in claim 5, characterized in that the protective layer comprises SrB_4O_7.

7. A low-pressure mercury vapor discharge lamp as claimed in claim 5, characterized in that the thickness of the protective layer is in a range from 1 to 20 μm.

8. A low-pressure mercury vapor discharge lamp as claimed in claim 1, 2 or 3, characterized in that the discharge vessel comprises at least one stem, said stem being provided with the protective layer.

9. A low-pressure mercury vapor discharge lamp as claimed in claim 1, 2 or 3, characterized in that the discharge vessel is made from a glass comprising silicon dioxide and sodium oxide, with the glass composition comprising the following essential constituents, given in percentages by weight:

60-80 % SiO_2,

10-20 % Na_2O.

10. A low-pressure mercury vapor discharge lamp as claimed in claim 9, characterized in that the glass composition comprises the following constituents:

70-75 % SiO_2,

15-18 % Na_2O,

0.25-2 % K_2O by weight.

11. A low-pressure mercury vapor discharge lamp as claimed in claim 1, 2, or 3, characterized in that a side of the protective layer facing the discharge space is provided with a luminescent layer of a luminescent material.

12. A low-pressure mercury vapor discharge lamp as claimed in claim 11, characterized in that the luminescent layer is provided with an additional protective layer.

13. A low-pressure mercury vapor discharge lamp as claimed in claim 11, characterized in that the luminescent material comprises a mixture of green-luminescing, terbium-activated cerium-magnesium aluminate, blue-luminescing barium-magnesium aluminate activated by bivalent europium, and red-luminescing yttrium oxide activated by trivalent europium.